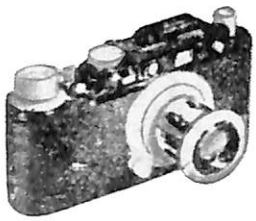


Leica

PHOTOGRAPHY





Leica PHOTOGRAPHY

Advance News of Leica Progress



December, 1932

from E. LEITZ, Inc. 60 East 10th St., New York

Number 1

EIGHT YEARS OF LEICA PIONEERING

The LEICA Camera was the original miniature camera to use 35 mm cine film, producing 36 pictures at a loading, each measuring 1 X 1½ inch. It is interesting to note that LEICA is still the foremost camera of its class. Since 1925, when the first LEICA Camera made its bow in the United States, it has progressed with a rapidity that is really miraculous. From the original model A LEICA has developed the latest AUTOFOCAL LEICA with interchangeable lenses and automatic focusing range finder. An interesting fact about the development of the LEICA is that the oldest model camera can easily be changed to the latest model. (More definite information about converting will be announced in our next issue of LEICA PHOTOGRAPHY). This indicates that the original design was of sound, scientific construction, years in advance of its time.

LEICA OWNERS will undoubtedly be interested in knowing a few of the outstanding advantages their camera possesses, hence let us briefly outline them.

STREAM-LINED

The corners are rounded for two reasons: (1) The round corner eliminates sharp corners which often stick and jam into the hands and pockets. The streamline effect of the LEICA produces compactness not found in other cameras. There is no wasted space taken up unnecessarily in the pocket or carrying case. (2) The LEICA shape is the most comfortable and easy design for hand exposures. The camera actually snug-gles into the hands, be they large or small. It fits into the hands, making its use more certain and definite. It may be cradled in one or both hands equally well without effort or fatigue.

CONTROLS

The controls are located on top of the camera---every one of them. In this position they are most easily operated with the minimum of effort and time. There are no knobs or buttons to interfere with inserting the camera in its case or in a pocket. This feature can be fully appreciated only after using the LEICA.

FOCAL PLANE SHUTTER

The LEICA shutter is made purposely of cloth so as to eliminate reflection and flare in the camera which often results when a metal shutter is used. The cloth used in LEICA shutters is made of a special material which is durable and unaffected by climatic conditions.

The shutter operates longitudinal,

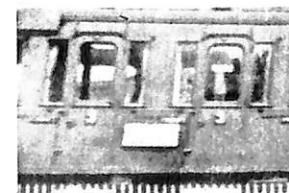
that is, across the horizontal area of the negative. This, too, was deliberately decided upon for reasons that can be better understood from the following explanation.

Photographs of speeding trains, automobiles, etc. are taken with the camera held in a horizontal position as this is the most pleasing manner of recording such action. A pole-jumper would be photographed with the camera held vertically so as to include the greater vertical area on the picture in accordance with the nature of the subject. With a shutter that operates downward across the narrow negative area, a speeding object is very apt to become distorted on the film due to the action of the shutter being contrary to the direction of the speeding object.



No. 1

The above Photograph No.1 shows a train in rapid motion taken at 1/500th of a second with the LEICA Camera. Although this picture shows a slight softness of line due to the high speed of the train photographed at such a close distance the photograph is remarkably perfect.



No. 2

Photograph No.2 shows the same train in action photographed at 1/500th of a sec. with a camera quite similar to the LEICA in which the Focal Plane Shutter travels from top to bottom. This camera uses motion picture film and makes a picture the same size as the LEICA. However the bad distortion is quite conspicuous because of the different shutter construction.

The LEICA shutter can be made to travel horizontally with the speeding object, but in the opposite direction, thus actually resulting in a quicker exposure and eliminating all objectionable distortion. The LEICA shutter normally travels from right to left, therefore an object traveling from right to left can be photographed with the camera held in the usual horizontal position with full assurance that the speed of the object can be "frozen" on the negative.

coming soon - our fourth decade

Opposite is the front cover of the very first issue of LEICA PHOTOGRAPHY. Date: December, 1932. While no solemn ceremonies will be observed, still we do not want our 30th anniversary (World War II years excepted) to go unmarked. For the years of our editorial lifetime have been good ones for photography. There is neither room nor need for a stock-taking of gains, however. Those of us who used the relatively crude materials of the era need no prodding to be thankful for today's sophistication. And those who were not photographers 30 years ago can never fully appreciate what is offered to them now.

But nonetheless, it was interesting to leaf through the first eight-page issue to see what interested Leicamen in 1932. Two names famous in photography — Willard D. Morgan and Karl A. Barleben — were listed as editors. The Leica-of-the-day was the Autofocal (the Model D), the first to feature a built-in range-finder. And even 30 years ago, Leica users had a choice of lenses with focal lengths from 35mm to 135mm and over 200 accessories to choose from — including darkroom equipment, enlargers, projectors, microscope and stereo attachments, and so on. Described under the heading of "Recent Introductions" was a visual-extinction type of exposure meter, the "Leicascope" (sic!), several brands of film that were "now available" in daylight cartridges, and a new variable-focus enlarger.

On its back page, LEICA PHOTOGRAPHY announced the first annual Leica Photographic Salon whose judges included Willard Morgan; Manuel Komroff, author and photographer; Dr. M. Agha, Art Director of Conde Nast publications and Margaret Bourke-White, the famous Life photographer.

In 1963, LEICA PHOTOGRAPHY will begin its fourth decade of publication. It will continue in its 30-year tradition of bringing you photographic inspiration, technical knowledge and news of the Leica and to share with you the general excitement of the dynamic growth of 35mm photography.



COVER

George D. McCaffrey

This admirable bird photograph was taken in a suburban backyard from the photographer's window. As McCaffrey was photographing winter visitors to a feeding station, the Cardinal paused for a moment on a nearby viburnum, making a splash of red accompanied by the counterpoint of the bush's berries.

M3, 280mm Telyt, Visoflex II on Kodachrome II with UVa filter, f/5.6 at 1/125th.

Leica

PHOTOGRAPHY®

VOLUME 15 • NUMBER 3 • 1962

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Leica Photography is published by E. Leitz, Inc., at 468 Park Avenue South, New York 16, N. Y., price forty cents. Copies are sent free of charge to all original purchasers of new Leica cameras or lenses residing within the United States of America and U.S. Territorial Possessions who have registered such new equipment with E. Leitz, Inc. To non-owners of Leica cameras, a subscription fee of \$1.00 per year is charged in the U.S.A., and \$2.00 elsewhere. Single copies are on sale at photographic dealers' stores, or direct from the publisher.

The editors are happy to consider original articles on photography with the Leica and photographs taken with Leica cameras and lenses. All manuscripts and photographs should be accompanied by stamped, self-addressed return labels.



one-man show

ANDRE KERTESZ, photojournalist

It is at first surprising to discover in Andre Kertesz, at 69, the same verve for making pictures that has been his since early childhood. But one soon realizes that an amateur's enthusiasm is a characteristic of the man. Enthusiasm is a part of what makes and keeps his work outstanding.

From the start, in pre-World War I Hungary, Kertesz was a photojournalist, although at the time there was no market — nor even a name — for the kind of pictures he took. He was then an amateur, but one who looked beneath the surface of the scenes

around him and who needed to communicate his reactions to what he saw. The significance of his subject matter might well have escaped duller eyes, for it was mainly familiar things: village scenes, the peasants and the countryside of his native land. But there was meaning in them for the young Hungarian, and his pictures conveyed it clearly.

The First World War found Kertesz in the army as a combat soldier and carrying a small plate camera and stock of dry plates in his combat pack. But even in the midst of conflict, his camera did not concen-

Paris, 1948 ►

Paris, 1929





trate on horror. Instead, it pictured the lonely soldier writing home, the farewell of an officer and his wife, the observance by troops of mass before battle. Even then, young Kertesz found more meaning in the poignant and poetic scenes around him than in the obvious and spectacular.

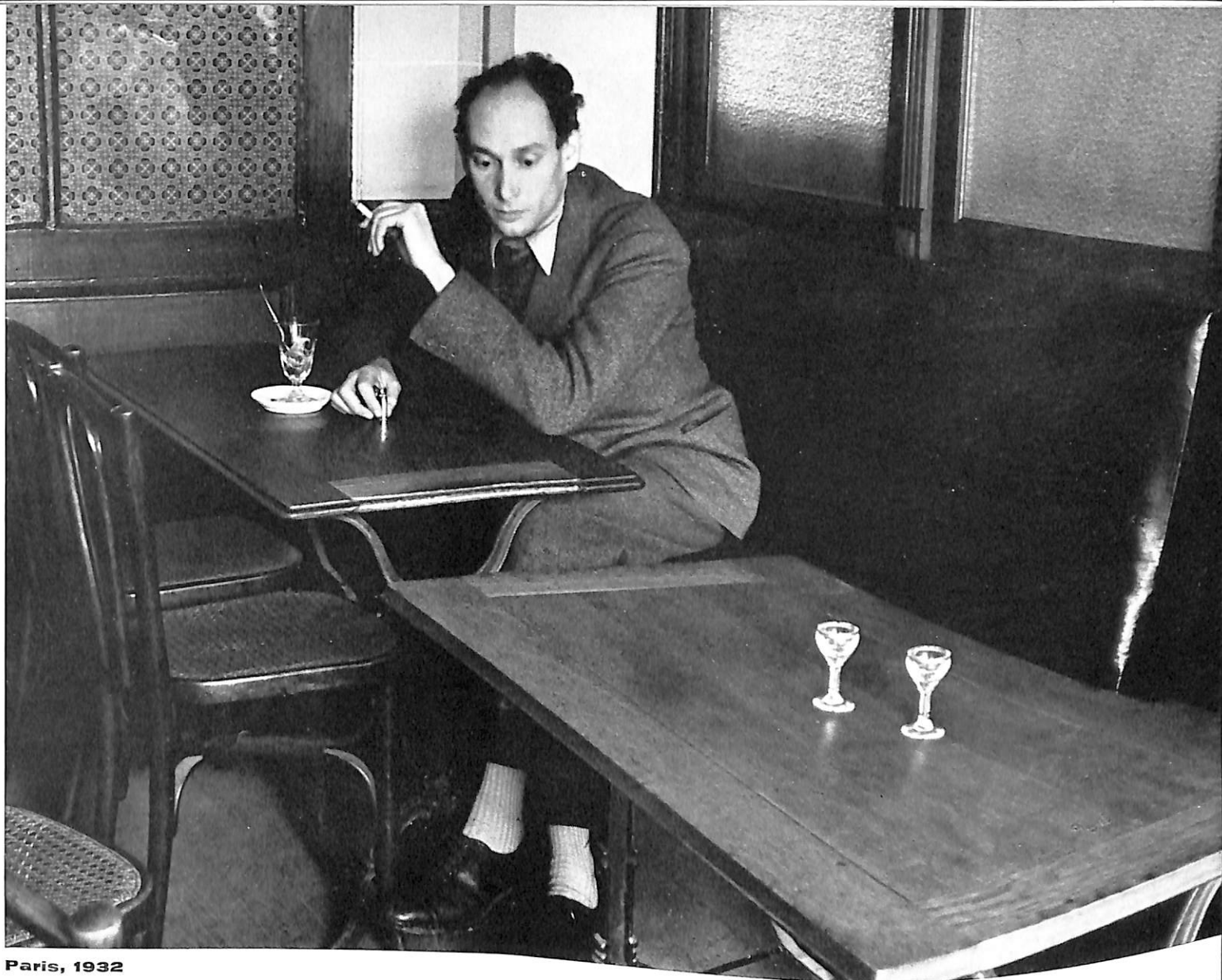
Many of his war-time pictures were lost, some when he gave them to a wounded friend to take home for processing. Later wounded himself, Kertesz lost

track of both his friend and the pictures. But the work which remains from that period is strong and speaks in images whose clarity of meaning is undimmed by the years.

But it was in Paris in the '20's that Kertesz' style first began to impress itself on the world of photography. Paris was a new world, to him, seen with fresh, penetrating vision. It was the art center of the world and offered intellectual stimulation and

Paris, 1930





Paris, 1932

the company of literary and artistic genius. Between the photographer and the City of Light there was an instant *entente*.

Early in his Paris career, Kertész discovered the Leica, which proved well adapted to his intimate, searching approach to pictures. Together, the photographer and his Leica began to interpret the life of a delightful city. And the partnership resulted not only in frequent assignments for French and German periodicals, but also in four books of pictures, including the classic "A Day In Paris."

Paris to Kertész was, above all, a city of people—of flower vendors, priests and peasants, of lonely cafe patrons, and children at play, of the famous, the infamous and the anonymous who gave the city its life and character. So well did Kertész succeed in capturing the spirit of Paris, that more than one observer of his pictures has been known to become illogically nostalgic for a city he has never even visited!

In the fall of 1936, Kertész came to America, con-

Courtesy of Condé Nast Publications

Paris, 1938





New York, 1942

tinuing to examine and react to his surroundings and to make what he calls "talking pictures"—i.e. pictures that have something to say. In America, he gradually began to get many magazine assignments involving landscapes and architectural themes. To this work, although it departed in aim from his reportage, he brought a strong feeling for mood, line and design. But assignments which called for a more studied approach did not keep him from pursuing his "talking pictures."

On the architectural assignments, along with the unwieldy view cameras specified, Kertesz carried his Leica slung around his neck. And during the breaks in the shooting session, rather than rest, he wandered briefly away from the location, making *his* kind of pictures of whatever struck him as being an experience to share.

New York, 1959 ►

Today, nearly 70, Andre Kertesz has the same discerning eye, the same unquenchable enthusiasm for photography that have distinguished his entire career. Each new picture he makes is to him a delightful experience. Indifference is foreign to his spirit. And, far from having fixed techniques, he is still a restless experimenter. Recently he produced hundreds of unusual pictures by hooking his Leica to a telescope. His latest enthusiasm is a new 280mm Telyt with which he is making a series of pictures of New York City. Many from the vantage point of his 12th-floor terrace above Washington Square.

Kertesz' pictures are, as he says, "talking pictures." The aptness of the term is evident when one tries to add to their meaning with a caption. Words rarely help. The pictures speak for themselves.

Kenneth Poli





gift list



BRAUN HOBBY F21 ELECTRONIC FLASH

This complete camera-top flash unit fits into the accessory clip, uses nickel-cadmium batteries, A.C. or A.C.-plus-battery power, weighs but 14 oz., gives 50 flashes per charge. Price includes battery charger. (#15,391) \$69.50.



TABLE TRIPOD

Versatile and very useful, the table tripod stores easily in a pocket or gadget bag with legs folded. Used on table tops, braced against walls, trees, etc. for slow exposures in low light. As shown, with ball-and-socket head (#14,110) \$16.50.



LEICA FOTOGRAFIE

This handsome cousin of Leica Photography appears in an English edition six times a year, features articles on Leica techniques and the work of famous European photographers. Subscription is \$4.50 per year, \$8.25 for two years or \$12.00 for three years.



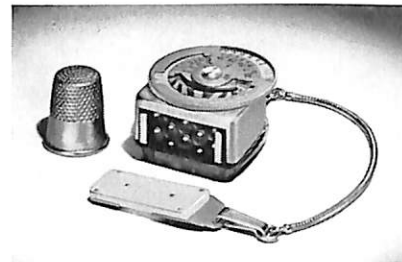
UNIVERSAL COPYING STAND

This versatile copying stand can be used with all interchangeable-lens Leicas and 50mm Leica lenses. Extension tubes and field masks provided make it possible to make photographs at reproduction ratios of 1:1, 1:1.5, 1:2 and 1:3 (#16,511) \$78.00.



SWING-OUT POLARIZING FILTER

Useful in both color and black-and-white photography, the polarizing filter controls unwanted reflections, darkens skies and improves picture contrast and clarity in general. Special mount permits filter to be oriented without removing it from the lens. Available in screw-in mount for all 42mm front-diameter Leica lenses. Price \$37.50.



LEICA METER 3

The tiny Leica Meter 3 fits the accessory clip of virtually any camera, ensures accurate exposures under any light conditions. Can also be carried off-camera on a special chain which is included. With Booster Cell for low light, carrying chain and incident light adapter (#14,231) \$25.50.



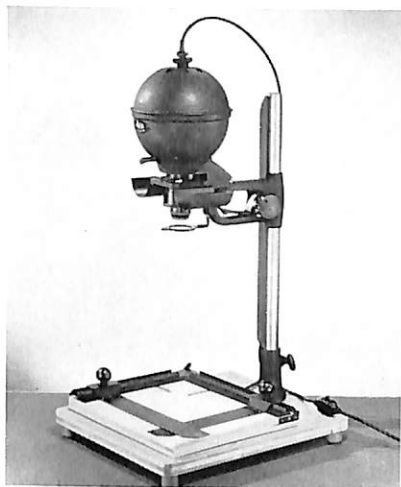
SMALL COMBINATION CASE

For light-traveling tourists or hobbyists, the Leitz small combination case carries a versatile Leica outfit in a very small space. Takes a camera body, meter, three lenses (35, 50 and 90 or 135mm), three filters and extra film. Comes with shoulder strap and pad, filter wallet and unique lens-coupling ring which stores two lenses back to back (#14,820) \$37.50.



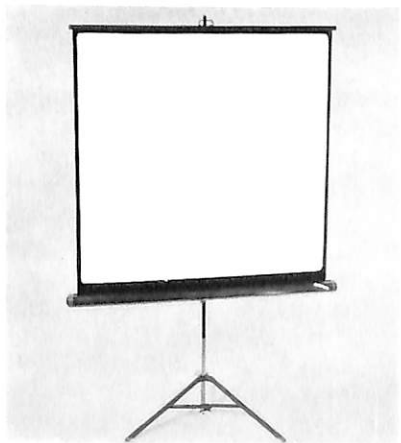
BENSER COMBINATION CASES

Famous photographer-lecturer Walther Benser helped develop these efficient carrying cases and uses them in his travels. Interchangeable inserts can be grouped in varying combinations to accept virtually any Leica outfit in a minimum of space. Available with pre-selected inserts, or select your own group. Model I, without inserts: (#98,901) \$25.50; Model II, without inserts (98,902); \$31.50. Individual inserts from \$3.00.



VALOY II

The remarkably efficient and versatile Valoy II enlarger will make big pictures from your favorite Leicaman's little negatives. Takes negatives from subminiature (8 x 11mm) to 1 5/8" x 1 5/8". Stand adapts for copy photography. New, low price of the Valoy II is \$138.00, Catalog No. 17,501.



MW PROJECTION SCREENS

The quality of the projection screen often determines how good your color slides look to the audience. A poor screen can make a poor show. The fabrics of famous MW screens are unequalled in their brilliance, resolution and the wide viewing angle they provide. Both tripod and box-model MW screens are available in sizes from 40 x 40 inches to 64 x 64 inches. Larger sizes available on special order. Prices from \$42.00.



LARGE BALL-AND-SOCKET HEAD

Holds not only the Leica, but also large cameras at nearly any angle. Has self-converting combination European and American tripod socket and screw. Use on any tripod. (#14,115) \$15.00.



PROJECTOR PLATFORM

Any tripod becomes a projection stand when you fasten this sturdy Schiansky projector platform to it. Holds any still or 8mm motion picture projector. Has standard American-thread tripod socket. Catalog No. 96,043; price \$6.60.



COPYING BRACKET 320

This bracket converts your tripod into a copying stand. When used with a reversed center column, it permits low-angle shots from near floor-level. A versatile addition to your kit for only \$7.50.

SCHIANSKY MONOPOD 202

When space and weight problems deny the use of a tripod, the monopod is the ideal device with which to steady the camera for slow-shutter exposures. Makes a good walking stick for foot-propelled photographers, too. (#96,010) \$13.50.



SCHIANSKY "STATICFIX 203"

Here is a "shoulder 'pod," an accessory unique among camera-steadying devices. A cross between a wire gunstock and a tripod, it braces against the shoulder, steadying the camera and holding it at just the right position for use. The Staticfix folds down for storage or carrying, and takes up little room. (#96,009) \$7.80.



SCHIANSKY TRIPODS

A tripod helps to capture all the astounding sharpness of which modern lenses are capable. It eliminates the biggest single cause of blur — camera motion during exposure. Eight available models accommodate every camera from sub-miniature to studio size. Priced from \$19.50.



AUTHOR CRONENWETT'S work clothes bear out the expedition's code name. Leica operates well even when photographer wears gloves.

just staying alive isn't enough!

W. R. Cronenwett, Commander, U.S.N., (Retired)

"operation deep freeze" needs pictures, too

Much of the U. S. Navy's finest photography, surprisingly, is emanating from an inhospitable land where the cold embrittles film, where shutters can become cranky and where metal freezes to bare flesh in a split second. The photography is the work of service photographers in Antarctica who are documenting the continuation of the International Geophysical Year, as sponsored by the National Science Foundation.

Each year between October and March, the Navy organizes a new Operation Deep Freeze to perform housekeeping and support duties for the nation's scientists who have wintered over at an outlying station, or who will engage in field research and trail parties during this "summer" season. And this is when Navy lensmen will be recording activities at distant stations, and on ships of Task Force Forty-Three while exploring uncharted shore areas of Antarctica.

cruel continent

Aerial and ground cameras, including the Leica M-2, are documenting scientific experiments carried out in what has been called "the cruel continent," an

area comprising five and a half million square miles. Here, in what truthfully can be classed a desert — because of the lack of humidity — Navy cameramen are operating their equipment under the worst physiological conditions found anywhere on earth. For Antarctica complicates photography and human existence in an almost unbelievable manner! Temperatures of 30° below zero are common; sudden and fierce storms arrive with little warning; "white-outs" bring all outdoor activity to a standstill. Ultra-brilliant light prevails during the "summer" season, and the photographer must be concerned over the effect of intense cold on his equipment and film, while being keenly conscious of merely staying alive in a wasteland in which drifting snow often delicately covers those treacherous and sometimes-fatal snow crevasses.

outwitting the weather

All photographic equipment must be winterized to operate in this frozen, wind-swept continent: cameras and film supplies are kept in a closed, unheated area to insure their operation in the field. The extreme low temperatures work adversely against

film, whose edges may become razor sharp when fraying from cold, and which becomes extremely brittle at sub-zero temperatures. Film must be advanced slowly in all cameras to prevent breakage and static electricity marks. Exposed camera surfaces, which might touch the face, must be covered with tape or felt to prevent skin from freezing to the bare metal.

The polar photographer wears thin "contact" gloves to keep his fingers from frost-burning on bare metal. Over the contacts go wool gloves, under soft leather gloves. These three pairs are covered by a double set of heavy gloves. Happily, the Leica operates quite easily when a photographer is wearing several pairs of gloves! Other protective clothing weighing approximately 25 pounds protects the photographer but does make an exhausting added weight, particularly when working at the 10,000-foot altitude at the South Pole station.

calories do count

Antarctic duty calls for extreme vitality and strength. So, the Navy feeds between 5,000 to 7,000 calories a day to each man to keep up body warmth and counteract the loss of heat which occurs rapidly in icy winds. This "chill factor" of the wind, which multiplies the effect of the cold, can cause severe bodily damage, frostbite and even death.

The photographers, however, are undaunted corps! Photographic production has been shifted from the

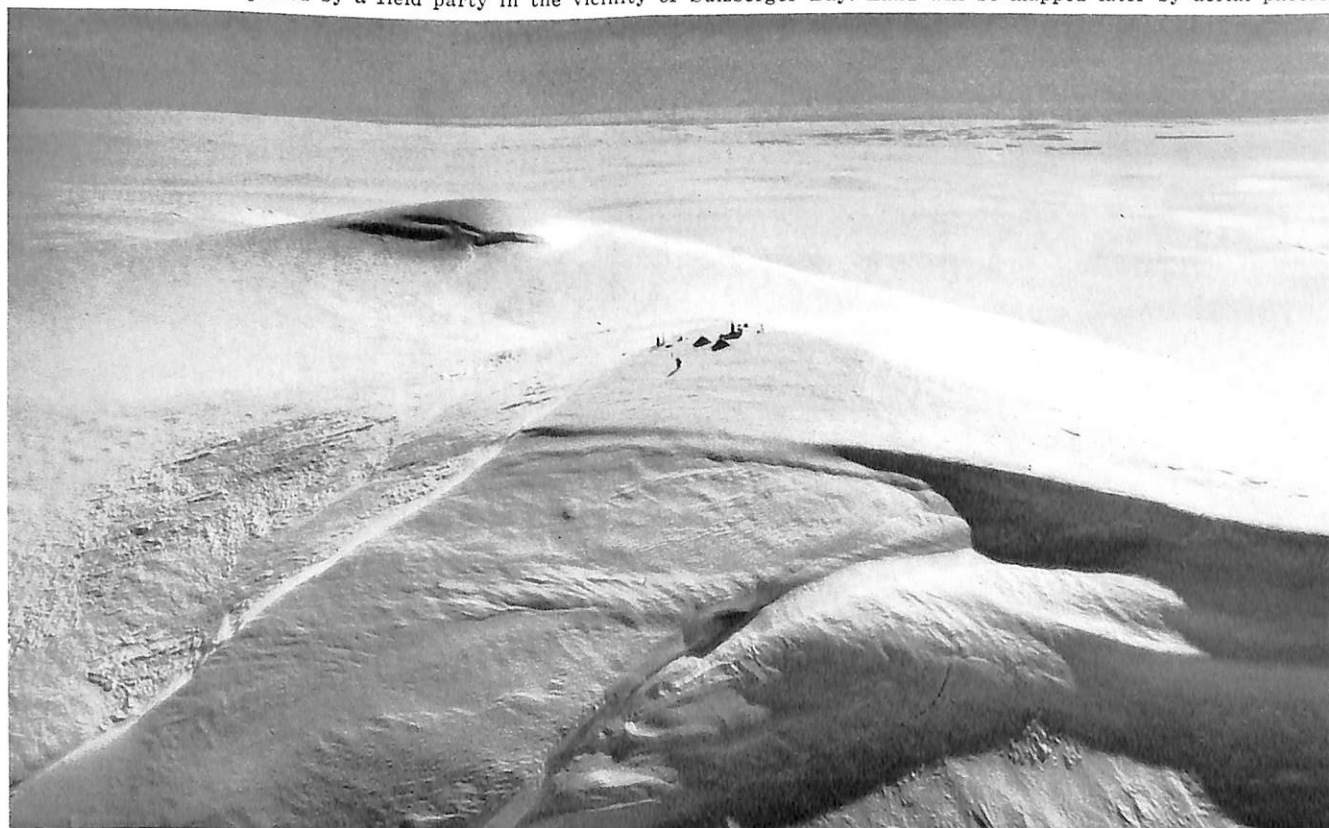
main Navy base, McMurdo Station, to Christchurch New Zealand. McMurdo, built on a finger of lava some 13 miles from the active volcano, Mt. Erebus, has had difficulty with the quality and quantity of its water, and in maintaining an uninterrupted power supply. Diesel smoke, ground-up lava and pumice, and melted snow produced a muddy brand of water unsuitable for laboratory use. The installation of a nuclear power reactor this past season will remedy the power problem.

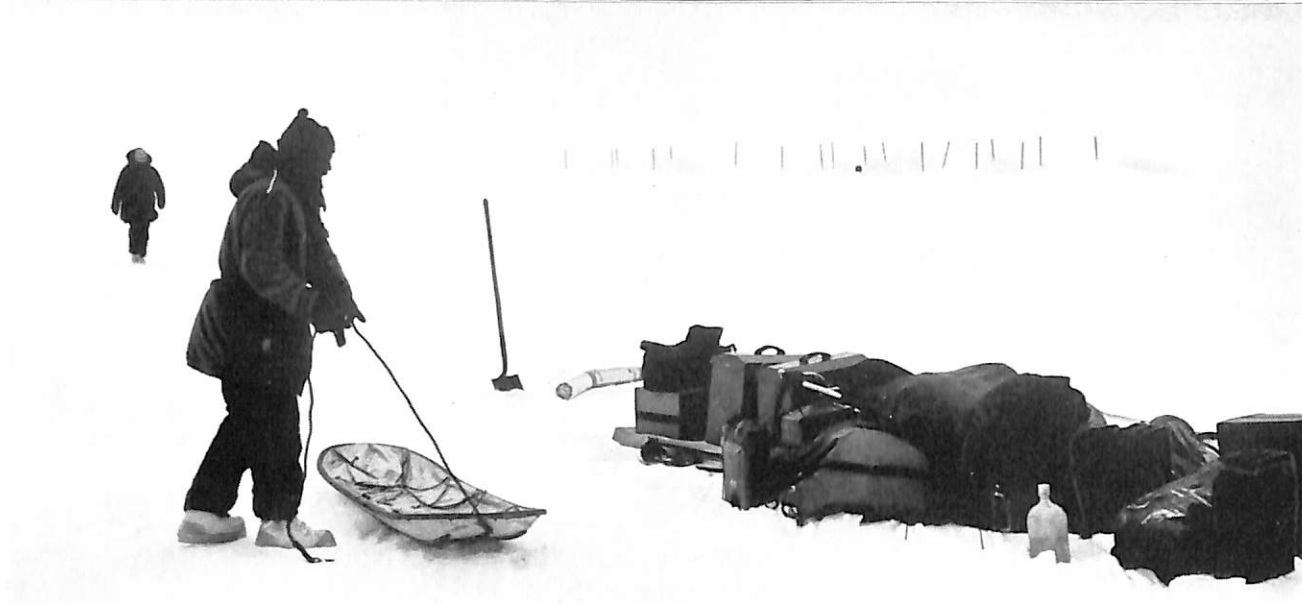
cameras at work

Aerial film obtained at great risk and extreme hazard while flying over uncharted land, is utilized by the Geological Survey and the Hydrographic Office in the preparation of new maps, while still and motion picture films find their way into documentary motion pictures, reports, books and magazines. Low-flying aerial reconnaissance flights provide a quick and ready "map" for trail parties and scientists in explorations. The P2V Navy Neptune planes mapped 118,000 square miles of Antarctica last season, while ground photographers exposed more than 5,000 negatives and about 70,000 feet of 16mm movies. The Christchurch laboratory completed 134,000 prints in their six month work period.

With an eye to lessening the burden of the polar photographer who has had to carry a large-format camera and movie equipment for exposing both black-and-white and color film, the Navy purchased winter-

VIRGIN TERRITORY is explored by a field party in the vicinity of Sulzberger Bay. Land will be mapped later by aerial photos.





UNDER THE SNOW is now-buried site of camp Little America V. In the manner of ancient Troy, new camp will be built above it.

ized M-2 Leicas for initial use in Antarctica, where they admirably survived operational testing and use. Since then, the Leica system has been designated for standard Navy use. The M-2 was enthusiastically adopted by Deep Freeze photographers, particularly for its compactness, its ease of operation and the almost-instant interchangeability of its fine lenses, (even when used by be-gloved photographers). There was no record of camera failure, and the slow, short strokes recommended in using the film advance lever obviated static electricity marks.

The variety of coverage available with the varied focal-lengths of Leica lenses is far greater than that offered by larger-format cameras, and this choice of lenses was both an artistic challenge and opportunity to the service photographers. What's more, since weight is a critical factor in polar fatigue (and a photographer can carry just so much equipment), the M-2 and its relatively small case of accessories

and film was greatly appreciated.

In helicopter reconnaissance flights, where photography is often plagued by engine vibration and the oscillation of rotor blades, the high shutter speeds on the Leica effectively reduced the problem of camera motion.

less file space

The Navy's adoption of the Leica camera as a standard stock item will reduce the amount of filing space which would otherwise be needed for 4" x 5" negatives. Six 35mm negatives, for instance, will be filed in the standard preserver; certainly the 6:1 ratio in space saved will be most welcome.

The savings in space and materials, and the versatility of the Leica system will make major contributions to the art of Naval photography, already recognized for its artistic competence, outstanding documentary quality.

Note: The views expressed are those of the writer, and do not necessarily reflect the opinions of the Navy Department.

SHIP'S LOCATION and radar records of coastlines are plotted in ship's Combat Information Center. Picture is by existing light.



AGFACHROME CT 18

Just another color film?

Norman Rothschild

color expert reports on a new emulsion

The Leica user these days is deluged with new color films aplenty. While most of these are new and important, the departure from the situation where you could zero-in on only one color film, has led to confusion in the minds of many.

The appearance of still another film may therefore leave many Leica owners cold.

Agfachrome, however, is not just another film. Its name and formulation are new, and its color rendition is a new experience. But Agfachrome represents one of the oldest traditions in color photography materials. In Europe this film is called Agfacolor CT-18. And this is one of the oldest names in color photography! Way back in 1916 Agfa marketed additive color material (i.e.: screen plates) under this name. The color was formed by a mosaic screen of transparent microscopic particles, some dyed red others green and blue, on top of which was coated a panchromatic emulsion. Exposure was through the screen, each particle acting like a color separation filter. After reversal development a positive in full colors was seen. While this material was painfully slow, about 60 times the exposure for that of an ASA 10 material was required, it represented one of the first practical and simple means of making color pictures.

But Agfa scientists kept busy. In 1936 they brought forth one of the first color films based on dye-coupling development. This kind of chemistry, the basis for all present regular color films was largely based on the work and discoveries of famous Agfa chemists Sigrist and Fischer. Agfacolor, as this film was also called holds the distinction of being the first color film of its type in which the color couplers are incorporated in the emulsion. (In some common color films the color formers are in the developing solutions, requiring complex and difficult processing operations.)

But enough history — what about Agfachrome? It's a far cry from the Agfacolor Plates of 1916. If you've not used it yet, be prepared for a surprise.



The biggest surprise is in the way Agfachrome renders color. Most of us are accustomed to the idea that each color film has a particular tonality, a characteristic color cast. The surprise about Agfachrome is that the colors are rendered in a most believable fashion; there seems to be no overall color cast. This is particularly noticeable in shadow areas which are not rendered with a blue cast, and in the rendition of "neutral" colors. Unless illuminated by strongly bluish light such as skylight alone, or by very warm light such as that from a sunset, these "neutrals" are rendered very close to the way they appear to the eye.

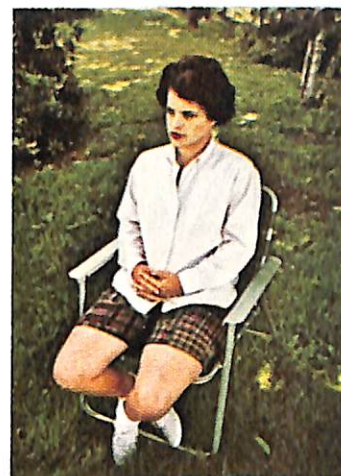
Agfachrome scores very high in the rendering of other colors too. Flesh tones are not turned into an idealized orange as is often the case with other films. Instead, the feeling of true flesh tones is so strong that even slight differences in complexions of the same type are easily recognized. (This alone should make Agfachrome ideal for medical and dental photography.) Reds, purples, yellows, greens, blues are rendered cleanly and with fine differentiation between close, but not identical hues.

Best of all is the rendition of pastel shades. Unlike contrasty color films, Agfachrome does not merge these into poster-like color. You can be sure that the delicate tones of morning fog will look like fog and not like a grey or off-color curtain. Used in the shade, Agfachrome has enough highlight contrast and color saturation to keep scenes from appearing too flat. Incidentally, I've found that the use of a Leitz UV filter in the shade is ideal for getting warmer rendition on Agfachrome. In my experience the Leitz Skylight filter seemed to give rather muddy, brownish color when used with this new film.

The Exposure Index for Agfachrome is 50, about a $\frac{1}{2}$ stop faster than that of most other so-called medium speed color films. In my continued use of this film, I've found this to be a consistently true rating. And even more important than speed is latitude, or margin for exposure error. In Agfachrome



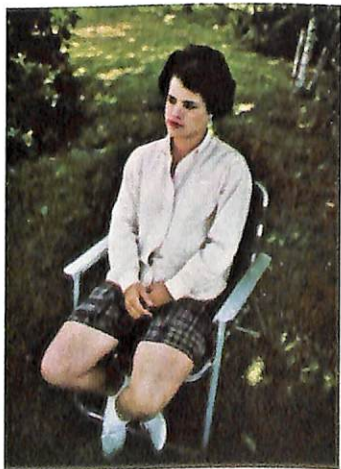
SHADOWS ARE CLEAN, and show little or no bluish cast. Notice, also, how the new film differentiates between subtle shades of red and green. Sharpness is excellent, too.



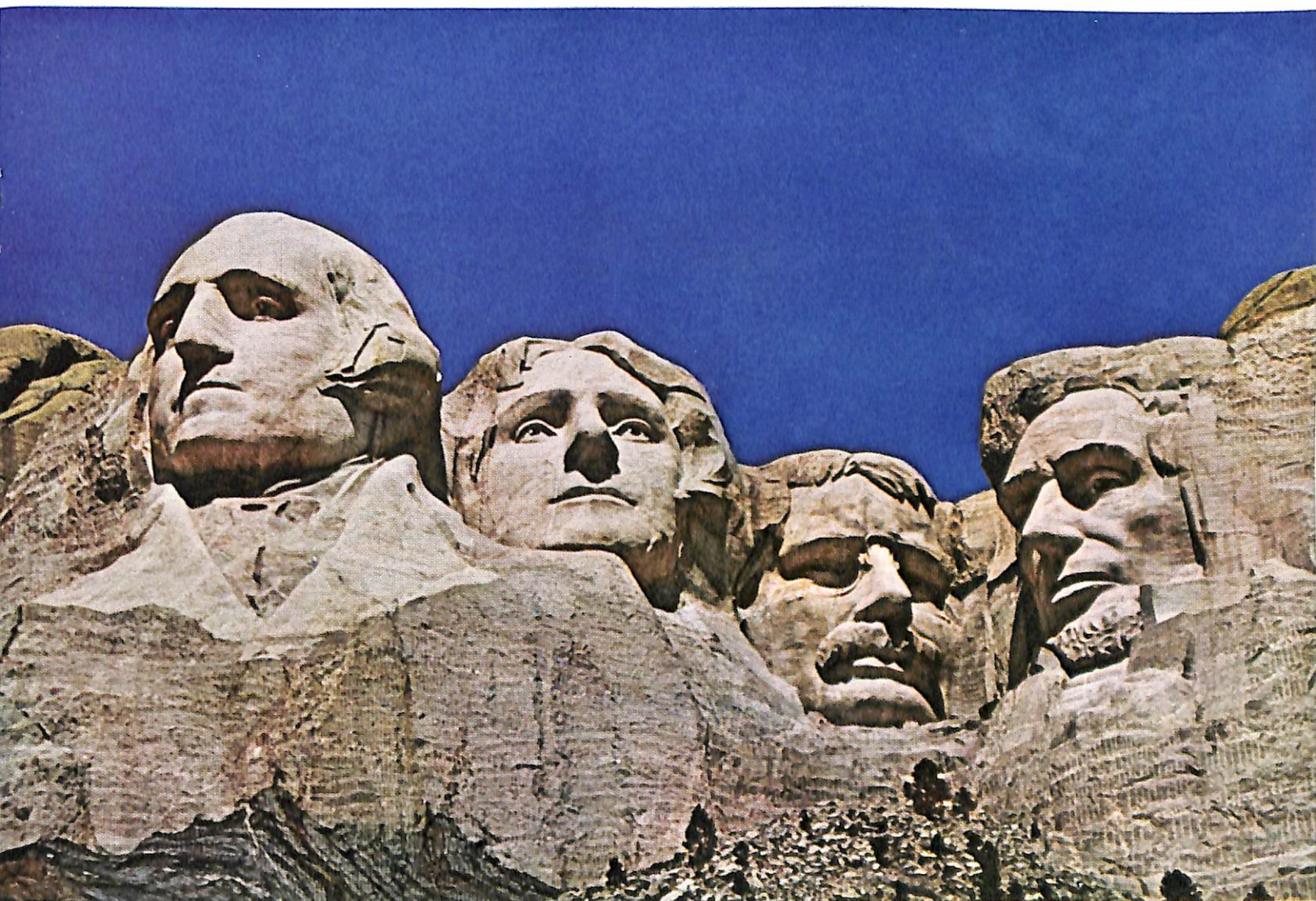
AGFACHROME shows good flesh tones, clean whites in the shade.



COLOR FILM #2 is greenish with off-color whites in same scene.



COLOR FILM #3 has blue cast, gives cold flesh tones in shade.



NEUTRAL TONES are really neutral as reproduced by new Agfachrome. The granite heads of Mount Rushmore retain their natural soft grey color, do not look bluish. Compare the girl's white blouse in the three photographs at the left for color differences.

this is very high. A range of from 1 stop under to about 1 stop over results in acceptable transparencies. Naturally for best results you should use your Leica-Meter carefully for ideal color transparencies!

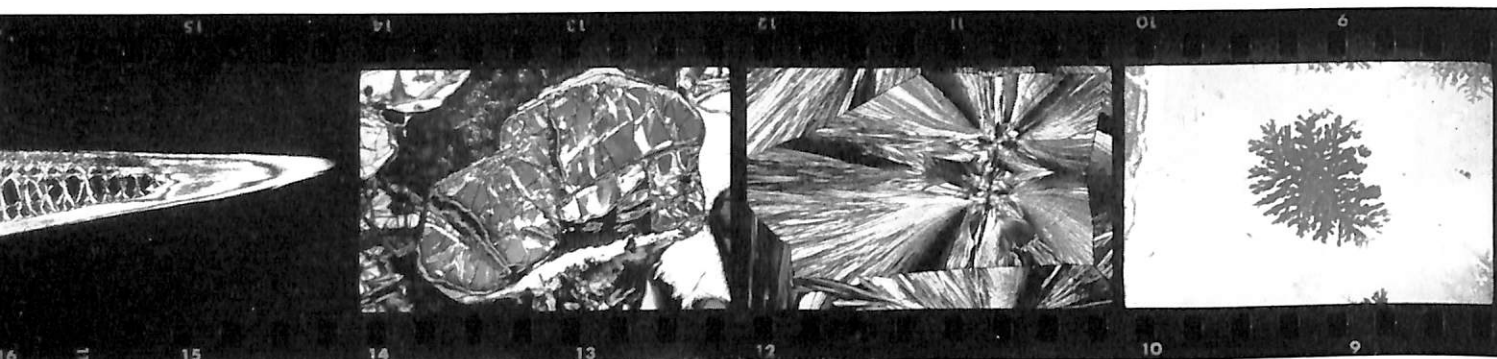
For a film of this speed Agfachrome exhibits remarkably fine grain and high resolution. Thus, even 11 x 14 color prints made from 35mm transparencies should exhibit little grain, assuming that Leica-quality lenses were used.

The price of a 20 exposure cartridge of Agfachrome is \$3.95. This includes custom processing by an Agfa-owned-and-run lab. (There is no danger of

your unknowingly sending your film to an inferior lab.) Agfa processing is superb. And it's fast too. Within 48 hours plus travel time the film is processed and returned to you (air mail to distant points!), cardboard mounted. (My experience in NYC is that the film is returned in from 48 to 72 hours from the time I place it in the mail box.) When you purchase Agfachrome you'll find a mailing bag enclosed. A novel feature of this is a numbered receipt which you tear off and keep. A useful feature, should you accidentally forget to put your name and address on the tag.

the Leitz Orthomat / *George Berkowitz*

new fully automatic 35mm. camera for photomicrography



ORTHOMAT eases the photomicrographer's job in picturing all kinds of specimens under many types of illumination, including darkfield and polarized light. An analog computer controls the functions usually carried out by the photomicrographer himself.

In the past, any microscopist called upon to photograph specimens could mutter in righteous Gilbert and Sullivan paraphrase, "A microscopist's lot is not a happy one!" With good reason, too.

Photomicrography has always been one of the most formidable fields of photography. The specimens to be recorded on film are always minute. The lighting problems are complex. Exposure, consequently, usually has been a matter of trial and error (and what a waste of film, particularly color, to attain correct exposure in this way!).

But the microscopist's lot recently has taken an enormous turn for the better. Three Leitz scientists have developed a fully automatic 35mm. camera that can be used with nearly any microscope; it is the first instrument of its kind that determines the correct exposure for an infinite variety of subjects, from metallurgical samples to biological specimens. The new instrument, called the Orthomat, is so easy to operate that any microscopist can produce, quickly and economically, photomicrographs of the highest quality in black-&-white and color — even if he is not a skilled photographer.

accepts most microscopes

The Orthomat was developed by Dr. Helmuth Frenk over a period of two-and-a-half years working in conjunction with Eberhard Bill, an electrical engineer, and Otto Kauss, an expert mechanic.

Since the Orthomat can be used with almost any

microscope, particularly those with built-in illumination systems, it does not make existing equipment obsolete. It is a self-contained unit; therefore, only the automatic camera and the tube required for whatever microscope is on hand need be purchased.

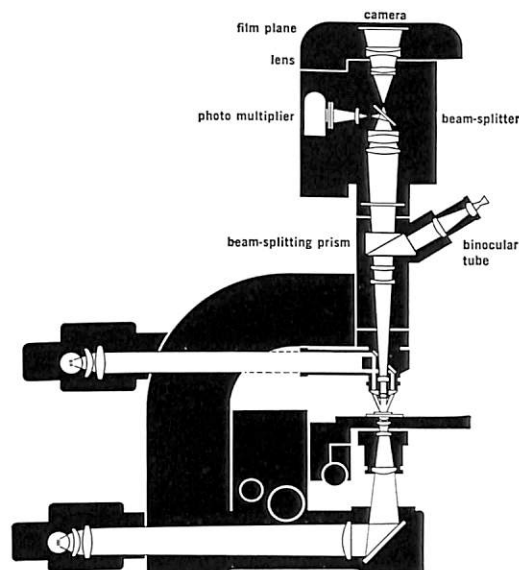
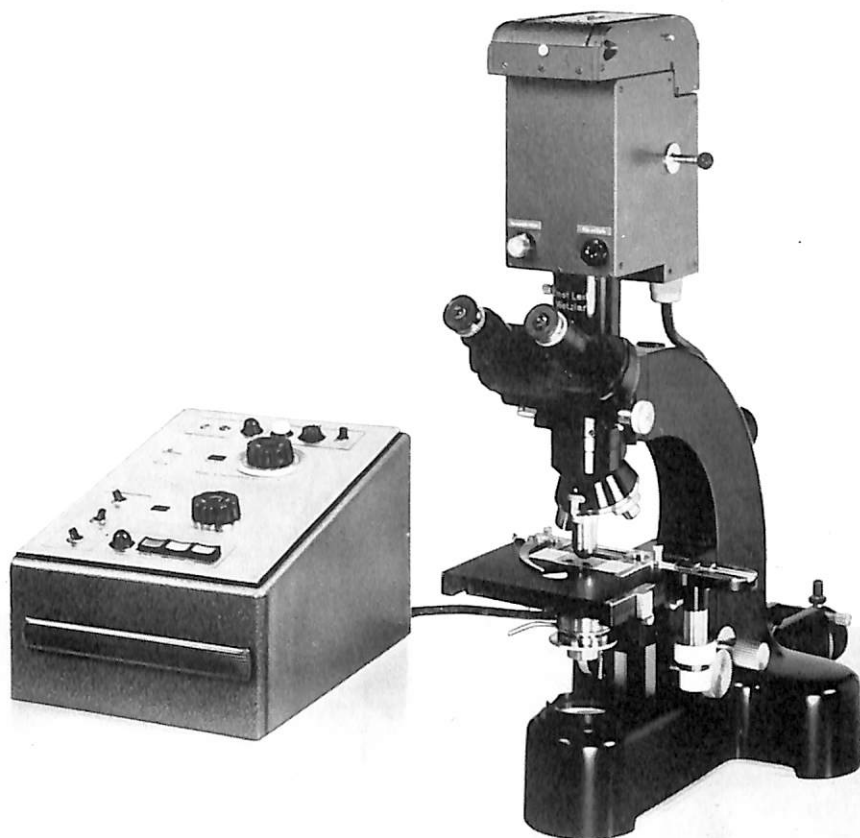
The instrument consists of three basic units — a camera box, an electrical timing mechanism and a binocular tube with a built-in prism, or beam-splitter, that makes it possible to take pictures at any time without interrupting observations. The Orthomat, therefore, is always ready for photography.

After the A.S.A. rating for the film being used is set, the camera operates automatically. Trial exposures, corrections and time-consuming preparatory work are unnecessary.

built-in computer

An analog computer controls all the functions a photomicrographer would otherwise have to carry out himself. When the release button is pressed, for example, the Orthomat determines the correct exposure for the subject, opens and closes a vibration-free shutter, transports the film one frame and advances the film counter so that the camera is ready for the next photograph.

The Orthomat is designed so that the light entering the microscope tube follows a straight upward path to the film and is interrupted only by two beam-splitters instead of following a complicated path with many fixed mirrors which create a serious dust prob-



COMPLETE AUTOMATION of the Orthomat microcamera does not rule out the use of practically unlimited exposure times, from time exposures to electronic flash.

lem. This direct path not only makes the instrument easy to clean but actually makes it difficult for dust to accumulate.

The light entering the microscope tube is divided by two optical elements. Approximately 80% of the total amount goes into the photographic tube of the camera and about 20% of it goes into the binocular observation tube.

Within the camera, about 10% of the light entering the unit is diverted by the second-beam-splitter to a light-sensitive cell, a photo multiplier tube made by R.C.A. The multiplier tube always receives the same percentage of the light entering the unit. The current produced in the tube, therefore, is proportional to the amount of light.

The current charges a capacitor. The weaker the light, the smaller the current and, consequently, the longer time required to charge the capacitor to a predetermined voltage.

A gas discharge tube "cold-cathode thyratron" initiates the discharge as soon as the capacitor has received the predetermined voltage. This operates a relay and ends the exposure. The shutter closes and the film is transported one frame.

short exposure

Because of the beam-splitting system, short exposure times are possible and the intensity of the light is still sufficient for viewing through the binocular tube. If the illumination is particularly weak, as, for

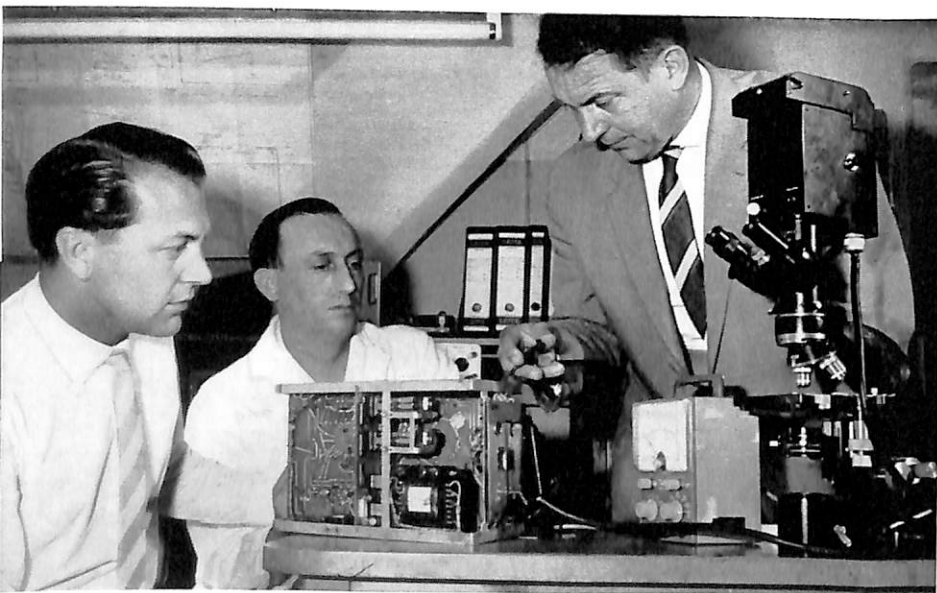
instance, in dark-field or fluorescence photomicrography, it is possible to observe specimens with all available light by switching a totally reflecting prism into the path of the light.

The binocular tube is equipped with automatic compensation for the interpupillary distance of the camera operator. This is important because it guarantees perfect image sharpness, not only in the eyepiece but also on the film plane.

The automatic exposure-timing mechanism of the Orthomat offers unique versatility to a photomicrographer because it permits the camera operator to use two distinctly separate methods of measuring the characteristics of a specimen to be photographed.

In the integrating method (the one most commonly used, particularly for histological and botanical sections as well as metallurgical specimens and phase contrast), the field of measurement is the rectangular portion of the field of view that will be covered by the 35-mm film. A control knob, called "object dark-light ratio," permits the instrument to evaluate and make allowances for various types of objects and situations, such as objects in dark or bright field or those that are less in size than the microscopic image.

When the object is in dark field, the detail method measuring only 1% of the image area is used. This method permits the elimination of the influence of the surrounding area when exposing dark-field images and brings out important details if the contrasts in the image are high.



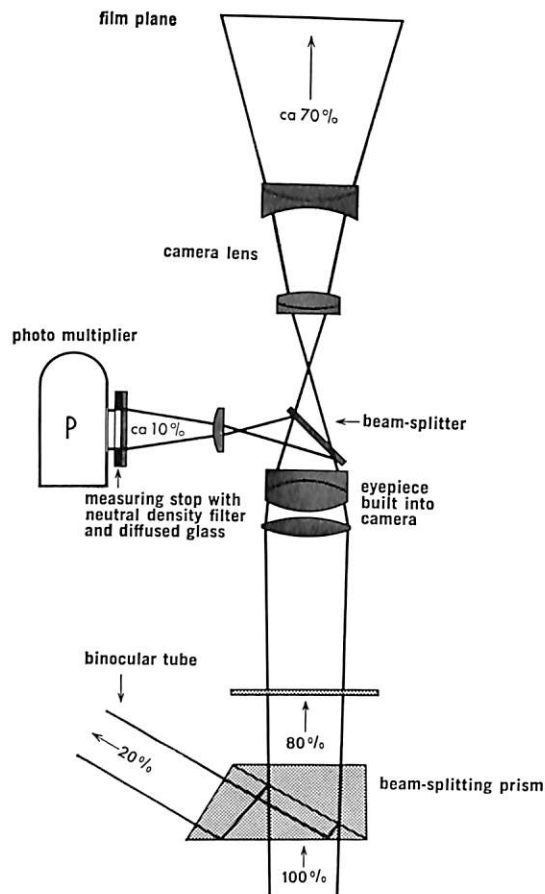
DESIGNERS and developers of the Orthomat are Leitz scientists Eberhard Bill, Otto Krauss and Dr. Helmuth Frenk. Development took thirty months.

Despite the complete automation of the Orthomat, the range of exposure times possible is practically unlimited. It offers the full range of exposures encountered in photomicrography from time exposures of long duration (for fluorescence photography) to 1/100 sec. or electronic flash (for living specimens requiring fast exposures). The Orthomat is synchronized with electronic flash.

If the exposure time required is shorter than 1/100 sec. (the shortest exposure possible with the Orthomat), a signal lamp goes on to indicate that this would cause an overexposure. Actually an overexposure cannot happen because the warning lamp also blocks the release circuit. Upon seeing the signal, the camera operator reduces the amount of illumination either by turning down his transformer or introducing a neutral density filter.

electromagnetic shutter

A special, vibration-free electromagnetic shutter was developed for the Orthomat. It was achieved by placing the very thin steel shutter blades directly in the magnetic field, instead of using a piece of iron or steel in an electrical field to transmit force to operate a separate shutter mechanism, as in the old method. In the new mechanism, the shutter is part of the magnetic field itself and has very little mass, thus requiring minimal force. The purpose of the new shutter, of course, is to eliminate any unsharpness caused by vibration.



Another unique feature of the Orthomat is that it uses interchangeable film backs (each with its own frame counter) that accept standard 35-mm film cartridges. An additional exclusive feature is that, although it is almost never necessary to do so, the instrument can be focused by the placing of a ground glass with a magnifier directly onto the readily-accessible film plane.

The camera can be rotated to permit the taking of vertical and horizontal formats, as well as to any intermediate angle desired, providing, of course, that the eyepiece is similarly rotated to maintain accurate framing.

Other features include an "interrupt" push button to close the shutter during an exposure if the camera operator so wishes; a white lamp that indicates the shutter is open during an exposure; a green lamp to indicate the camera is ready to make an exposure; a trial exposure switch permitting the exposure time to be estimated without making an exposure; a red warning lamp on the camera and circuit box to indicate that the end of the film roll has been reached and an automatic film-end exposure stoppage circuit just in case the camera operator does not notice the lamps; and foot-switch operation. The Orthomat can easily be taken apart for cleaning. It is distributed in the U. S. by E. Leitz, Inc., and sells for approximately \$3,000.00 without microscope. For more information, write: Scientific Instrument Division, Dept. 362, E. Leitz, Inc., 468 Park Ave. S., N. Y. 16, N. Y.

zoo pictures needn't be beastly!

be fast, yet patient for best results

Although he doesn't own one, Richard Van Nostrand of San Diego, California might find a kangaroo an ideal pet. For "Van" may be the only man in the world who combines work as a mail carrier with off-hours as an official zoo photographer. And a pet with a built-in gadget bag would be handy on either job.

Van Nostrand, however, is content to shoulder both mail and gadget bags himself and has been doing so for about twenty years. He has been official photographer for the San Diego Zoo for 11 years, and all the illustrations for this article were made there.

Since zoo photography is so popular with hobbyists, we decided to take advantage of Van's long experience at photographing animals and to ask him some questions about his techniques. We pass along his comments to help you with your own picture-making the next time you visit a zoo.

Lenses:

"In my Zoo work I would estimate that about 999 out of 1000 shots are made with lenses longer than 90mm. However, I use the 35 and 90mm lenses as well."

Exposure:

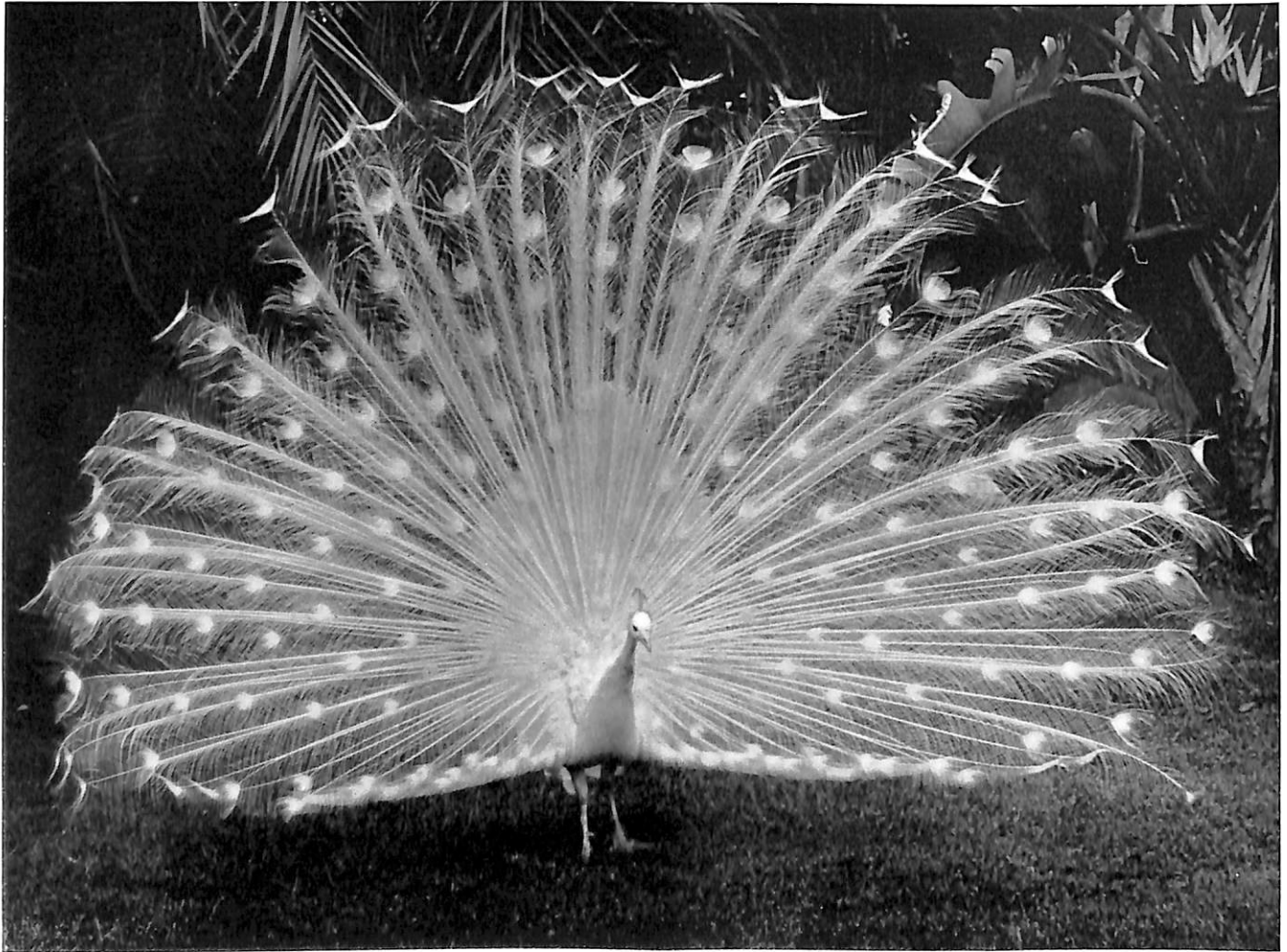
"Sorry, I don't keep track of exposure times. But I have one cardinal rule — I shoot as fast as I can — consistent with the available light and good depth of field."

Film:

"For years I have used Adox 17 at ASA 50 as my standard film. Now, for increased speed I also use Kodak Plus-X at ASA 160. I favor UFG for the Plus-X and X-22 for the Adox. Kodachrome and Ektachrome are my choices for color."

Red Uakaris; 135mm Hektor, electronic flash





Peacock; 200mm Telyt

Flash:

"I use flash whenever possible, both as fill-in for shadow areas and to put catch-lights in the eyes of my subjects. It's hard to realize, until you try it, how much life and sparkle the tiny dot of a catch-light adds to the picture. I use electronic flash exclusively because its short duration disturbs the animals less than ordinary flash bulbs would."

Some suggestions for hobbyists:

"For zoo photography, a 135mm lens is particularly desirable for close-ups and to fill the frame at medium distances. If you have no long lens available, stick to photographing animals which are both large and close by. And don't be afraid to use plenty of film! I feel if I get one or two really *good* shots on a roll, that I'm doing fine. However, many pictures develop in the first moments of shooting. Be ready,

yet patient — and wait for the best moment. The animals' curiosity is a big asset to you. Try ducking down — and just watch them raise their heads and look around! Rustle a piece of paper or crack a twig to get their attention. But **BE READY** when you get it! They often lose interest fast.

You should also be ready to come back another time, if all else fails to liven the scene. Sometimes you can stand on your head and it will do no good! Persistence is also vital in making animal pictures."

Composing:

"Fill the frame to the greatest extent practical. Try to use selective focus and to choose lighting which will help to eliminate wire fences or other obtrusive backgrounds. But if the picture is interesting, make it anyway — regardless of the niceties! Some pictures can't be duplicated."



Lufthansa tour will visit Leitz factory and Photokina

Leica expert will accompany photo travelers



EUROPEAN FLIGHT will visit Photokina, Berlin, Rome, the Leitz factory in Germany and other famous and interesting places.

March 15, 1963 will be the first of 17 memorable days for a limited number of Leica enthusiasts.

For this is the take-off date (on a luxurious Lufthansa German Airlines jet liner) for an air tour of Europe offered by Lufthansa and Lindblad Travel, Inc., and designed for photographers — especially Leica photographers. Besides visits to such colorful cities as Rome, Paris and Berlin, the 17-day tour will include two-and-a-half days at the famous Photokina international camera fair. A day at the home of the Leica — the Leitz plant in Wetzlar, Germany — has also been arranged.

What's more, at Lufthansa's request, an expert from the famous Leica Technical Center in New York will be along to solve photo problems, point out good picture angles and in general to guarantee the tour members' photographic success en route.

itinerary

The tour will leave Idlewild International Airport in New York City on Friday, March 15 aboard a Lufthansa jet liner, landing the next morning in Cologne, Germany, the site of the Photokina. The following two-and-a-half days will be spent at the Photokina and in picture-taking in Cologne. Departure for Berlin is on the evening of Monday, March 18th.

Next morning there will be a tour of West Berlin with a close view of the Wall, and opportunities to photograph some of the ultra-modern buildings in the city. The afternoon will be free for individual exploration and more picture-taking.

On March 20, the tour will leave for Frankfurt, going by bus from there to Wetzlar, home of the Leica. Tour members will be guests at the Leitz factory for the day and will visit the laboratories and plants where the Leica is made. Leica owners will have the opportunity to ask questions of the Leitz technicians and to get advice and instructions about the manufacture and use of their cameras.

Having gained practical photographic knowledge at the Photokina and from Leica experts, the photo-travelers will continue their tour, leaving for Heidelberg at the end of the Leitz factory visit.

Sight-seeing and picture-taking in Heidelberg, Rothenburg, Dinkelsbuehl, Munich, Garmisch Partenkirchen, Oberammergau, Rome and Paris round out the stimulating trip. On Sunday, March 31, the tour members return to Idlewild Airport in New York City.

The price of the tour includes the cost of round-trip air and motorcoach fares, shared, twin-bed rooms with private bath in first-class hotels, all meals en route and most other breakfasts, lunches and dinners, service charges and taxes.

A tour conductor will accompany each group of 31 tour members. And, as mentioned, a Leica expert will be along to keep members photographically happy.

The cost of the tour, including the above items, is \$798.00. For full details on the tour write to: Lufthansa German Airlines, Dept. BV, 410 Park Avenue, New York 22, N. Y. Tour accommodations are limited, so ask for details soon.

transparencies teach history / *George M. Kren*

visual aids bring the past alive

The ever-increasing number of college students has created large classes. And this has created problems — particularly in basic, required courses, where a freshman class with two hundred students is not unusual. As Assistant Professor of History at Lake Forest College in Illinois, I have my share of these problems, because all freshmen are required to study courses dealing with the history of Western civilization or world history.

problem and solution

Thanks to the often-poor background in geography of American high school graduates, more than one instructor has seen student maps on which the Rhine flows through Paris and the Alps are in Russia, and so the inclusion of geographic information is a necessity in any history course. The traditional method by which lecturers in history have dealt with geographic material has been to use wall maps, and to refer to them frequently during a lecture. But with lecture classes of over one hundred students this is no longer possible, since students sitting a few rows back in the required large classroom are not able to distinguish any detail on a wall map,

much less read the printing. Most historians, however, feel that an introductory history course cannot be taught properly without maps.

How, then, can we teach facts which must be learned by classes so large that ordinary methods cannot teach them? Here at Lake Forest College we do it by projecting 2 x 2 transparencies of maps. And this method has brought with it unexpected dividends. It not only brings home vital details to the students, but it is also relatively inexpensive.

At Lake Forest College lectures in "Western Civilization" are given in a small auditorium with a seating capacity of just under two hundred. The room is about 56 feet long and it has a built-in projection booth. For projection on an 8 x 12 ft. screen we use a Pradovit FA 500 projector with a long lens. Even with the room lights sufficiently bright to enable students to take notes, and with a normal matte screen, the image is eminently satisfactory. The printing is readable, even from the last row, and colors are not washed out. The Pradovit's accessory 65 ft. remote control cable runs from the projection booth through a conduit to the front of the stage enabling the lecturer to change slides at will.

LARGE CROWDED CLASSES are taught with projected visual material at Lake Forest College. Teacher controls remote projector.



Photos by Mike Wurth

other visual material

The advantages of using transparencies are not restricted to replacing the traditional wall maps. Since the cost per individual slide is, compared to the cost of standard maps, slight (we estimate the production cost of a glass-mounted slide to be about \$1.50), it has permitted us to make detailed maps to illustrate specific problems under examination. This method further allows us to project other relevant visual material. For example, when discussing the Thirty Years' War, we begin by showing a contemporary etching of the defenestration (i.e. the imperial representatives being thrown out of the window in Prague, which was the immediate "cause" which began the war). This is followed by portraits of the leading figures, Gustavus Adolphus and Wallenstein. For Wallenstein we use a transparency of the famous Van Dyke painting, and a contemporary etching showing his assassination.

A detailed map showing the various campaigns of the war, and to which we refer frequently throughout the lecture, is on the screen most of the time. The peace treaties terminating the war are illustrated first of all by the title page of the "Peace of Westphalia." This is followed by maps showing the territorial changes produced in Europe by this treaty, a map of Europe and one of Germany as they appeared in 1648.

telyt for copying

To make slides of maps, diagrams and some pictures, we often photograph material directly from books.

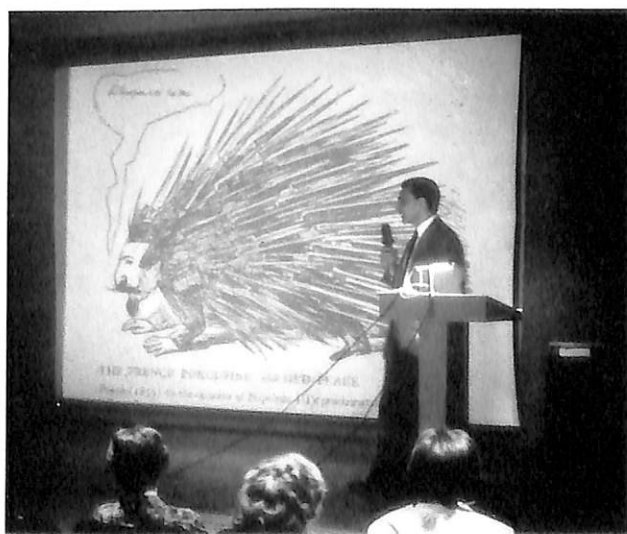
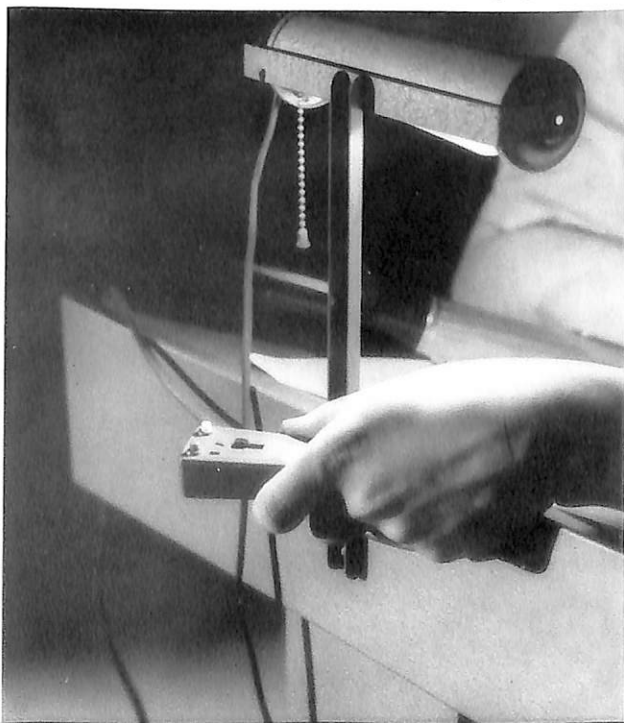
We have found it advantageous, when copying from a book, to use as long a lens as possible, to minimize the curvature of the book pages. Thus, almost all our transparencies are taken with a 200mm Telyt, a reflex housing and, where necessary, extension tubes. (*Ed. Note: The Leitz Framing Box #16,761, designed for use with the Reprovit II Reproduction Outfit, but useable with other vertically-operated copying set-ups, is designed to hold flat, under glass, books up to five inches thick. This eliminates any page-curvature problems and the consequent need for long-lens perspective to solve them.*)

Because of its nearly total absence of graininess, we use Professional Type A Kodachrome for both color and black-and-white material.

We also buy commercially-available slides, particularly art material having historical relevance such as Holbein's portraits of Henry VIII and Thomas Moore, Delacroix's massacre of Chios, or David's Napoleon.

I find that this program substantially enriches the course in Western Civilization: the visual material is directly related to the topics under discussion, while the showing of contemporary material aids the student in getting a "feel" for a past historical period. As a combined instructor-projectionist, I appreciate the power and automatic functioning of the Pradovit. As teacher, I retain control of the class and the instruction from the front of the room. As projectionist, I can "program" the Pradovit's slide magazine in advance, then run both the class and the projector (50 feet away!) from the lecture platform.

FROM LECTERN, teacher controls both class and projector. Pushbuttons (L.) advance or reverse slide magazine and control focus.



NEW PRODUCTS

Braun "Hobby" units most versatile ever

advanced circuitry provides three-way operation

Do good things come in threes?

To judge from the latest additions to the family of Braun "Hobby" electronic flash units, they do, indeed. This time, the three good things are the F 21, the F 65 and the F 80 — a group of sophisticated flash units which meet nearly every amateur and professional need.

the F 21

With the F 21, Braun's designers have managed the remarkable feat of retaining the appearance, size and price of the famous little F 20 which it replaces, while making it three times as versatile and improving its light output!

Starting with the proven reliability of nickel cadmium battery power, the engineers added AC operation (adjustable for 110V or 220V) and AC-plus-battery operation.

fast recycle time

The new circuits produce remarkable results in the F 21. Recycle time with nickel-cadmium power alone is a consistent 8 seconds. AC recycling time is 14 seconds. And when the unit is switched to AC-plus-battery power, recycle time drops to an amazing *four* seconds!

What's more, when properly used, a fully charged battery will deliver 10 flashes more in the F 21 than were available in the F 20.

When the F 21 is used on AC operation, the nickel-cadmium battery is recharged at the same time, thanks to the new circuitry plus a combined AC connecting cord and battery charger which comes with the unit.

improved reflector

Along with electronic improvements, the F 21 boasts an improved reflector. Its result is to produce more light, distribute it more evenly than ever and to eliminate ultraviolet completely from the illumination. There is no chance for hot-spotting or cold tones in color pictures when the new reflector is used.

Despite the increase in light output, however, the F 21 will retain the published guide number of the F 20 — which is 40 for Kodachrome II. This is in keeping with Braun's conservative approach to rating their units.

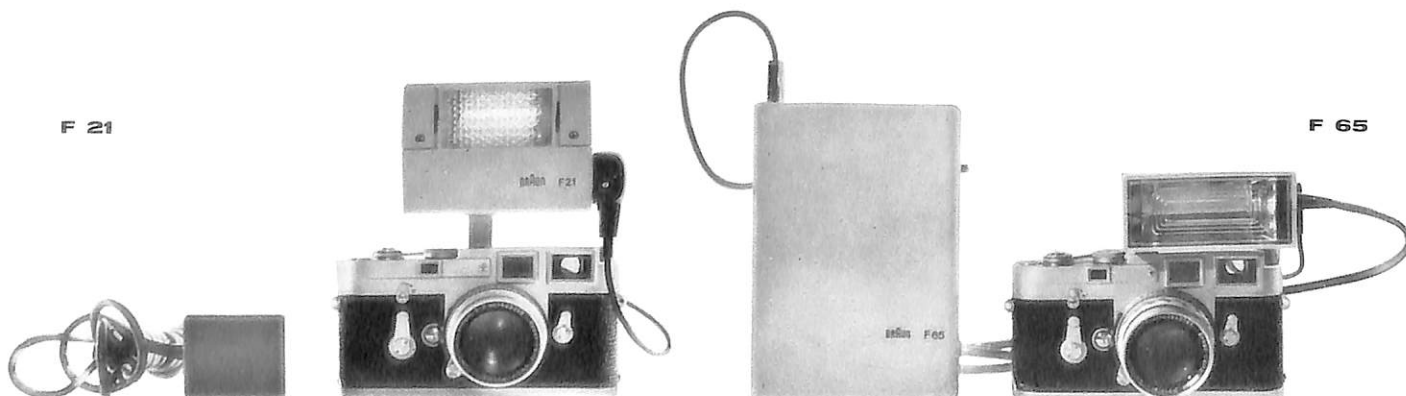
The F 21 measures only 3 $\frac{3}{8}$ " x 3" x 2 $\frac{3}{8}$ " and weighs only 15 $\frac{1}{2}$ ozs. The combined charging unit-AC cord weighs but 9 ozs.

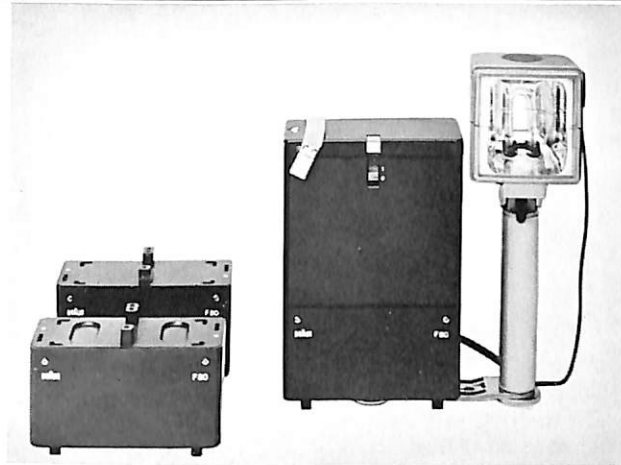
Like the former F 20, the new unit has a built-in exposure calculator dial, a neon ready-light, on-off switch and sockets for AC and recharger and camera connecting cord. A test-button provides for flashing the unit when it is not connected to the camera, as in open-flash, etc. A removable foot fits into the accessory shoe of nearly any camera and features a set-screw which locks the foot securely in place.

The F 21 unit, with non-interchangeable, rechargeable nickel-cadmium battery, combined battery charger and AC connecting cord (but without camera connecting cord) is \$69.50 (Catalog No. 15,391).

the F 65

The new F 65 is a more powerful two-piece flash unit which replaces the F 60 and features circuitry similar to that of the F 21. As a result, it offers operating features like those of the F 21 — a choice of battery, AC (adjustable for 110V or 220V) or AC-





F 80

plus-battery operation, faster recycling time, increased flashes-per-charge, more light output and freedom from ultraviolet.

Despite its high guide number (56 for Kodachrome II) the F 65 is small and light. The removable flash head can be mounted either in a camera accessory shoe or on a camera bracket, or be hand-held for off-camera flash pictures. A removable shoe on the flash head can be positioned to hold the head either vertically or horizontally. The flash head measures only 1 $\frac{1}{16}$ " x 2 $\frac{3}{16}$ " x 3 $\frac{3}{16}$ " and weighs only 5 ozs.

The power pack, which measures 1 $\frac{1}{4}$ " x 4 $\frac{1}{4}$ " x 6 $\frac{1}{8}$ ", weighs only 26 ozs. and can easily be carried by a strap over one shoulder.

The charger unit of the F 65 is built into the power pack. A small drawer in the attractive gray plastic housing of the power pack slides out to make the fuse instantly available for replacement when necessary.

Recycle time on AC is nine-to-ten seconds; with nickel-cadmium batteries, 9 seconds, and on AC-plus-battery only 5 seconds.

Like the F 21, the F 65 has a built-in flash calculator dial and a firing button for open-flash work or testing.

The F 65, complete with rechargeable nickel-cadmium battery, built-in battery charger and AC operating unit, removable flash head and AC connecting cord, (but without camera connecting cord) is \$92.00 (Catalog No. 15,394).

the F 80

Most versatile of the three new units is the F 80, whose design is unlike any other Braun flash unit past or present. It does not, however, replace the automatic EF 3, which will continue to be available.

The F 80 features instantly-interchangeable power units which lock to the bottom of the basic housing and connect automatically to the F 80's circuitry. There is a choice of a wet-battery power unit, a rechargeable nickel-cadmium unit or an AC unit. A separate battery charger comes with the F 80.

For added versatility, the F 80 can be used at either full or partial power. At full power, the storage batteries offer 150 flashes per charge; with nickel-cadmium battery power, 180. At partial power, the

number of flashes is doubled — 300 for the Barix unit, and 360 for the nickel-cadmium!

Recycle time is six seconds for battery or AC operation at full power and *only two seconds* at part-power! With a watt-second capacity of 160, the F 80 produces a guide number of 104 for Kodachrome II.

ultra-flexible flash head

Flexibility is the keynote of the flash head as well as the power pack of the F 80.

It tilts through 90 vertical degrees to direct light anywhere between the camera's optical axis and straight overhead for bounce flash. At the same time, the metal flash handle can be rotated through a full circle (360°) around its vertical axis, with locking positions at 45° intervals.

So, by combining and varying the handle and head adjustments, light can be aimed in practically any direction. Normally, the flash handle and head are mounted on a camera bracket, but can also be removed and hand-held for off-camera flash.

A sliding grip under the flash head is used to position the flash tube inside the head for either a normal or a wide-angle beam. It is marked with universal symbols to designate the respective positions.

one unit, four flash heads

Up to three extra flash heads can be added to the F 80 for extension flash work, thanks to its high power and advanced circuitry. Used in this way, it becomes a virtual portable studio.

Extension flash heads for the F 80 look and perform like the standard head; they tilt, rotate and feature variable beam width. They are connected by cord and a special plug to the F 80's housing.

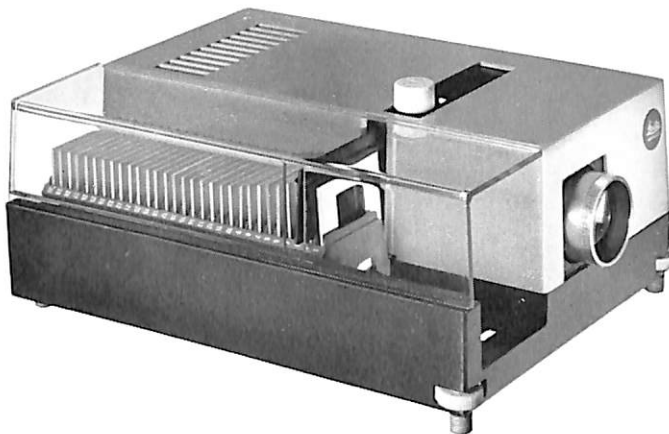
Another interesting feature of the new unit is a glow lamp built into the main on-off switch which lights when the battery is in operating condition. There is also a manually-set flash-counter dial numbered from 10 to 200, which helps the user to keep track of the number of flashes made from a given battery charge. This is particularly valuable for use with the nickel-cadmium power unit, since these batteries have a virtually constant recycle time in the F 80 despite the state of the battery charge. The wet-battery pack has visible charge indicators to remind the photographer when to recharge the cells.

The F 80, with flash head and handle, basic housing, nickel-cadmium power pack, battery charger and charger cord is \$208.00 (Catalog No. 15,380). With wet batteries in place of the nickel-cadmium pack, the above equipment is \$164.00 (Catalog No. 15,381). An AC power pack, including line cord (also used as a battery charger) is \$35.00 (Catalog No. 15,384).

NEW PRODUCTS

Pradolux

compact projector has
low-voltage lamp



The new Pradolux meets the demand for a Leitz-quality projector at a moderate price. It features a 100mm Leitz $f/2.8$ projection lens and will handle both 2 x 2-inch and "Superslide" transparencies.

The new projector has a strong family resemblance to the Pradovits, but is more compactly built. It accepts interchangeable Leitz magazines, advancing or reversing them and changing slides by means of a one-knob, manual control. The light beam from the projector is automatically darkened between slides.

quality features

Despite its modest price, the Pradolux offers a number of the features of the costlier Pradovit projectors. Illumination, for instance, is by means of a highly efficient 12-volt, 100-watt low-voltage lamp like that used in the Pradovit N. Its light output equals or exceeds that of most 300-watt high-voltage projec-

tors, yet its operating temperature is extremely low, due to the low-voltage lamp plus the efficient cooling of a quiet built-in blower.

The cool operation of the Pradolux protects your slides from heat damage and minimizes the "popping" out of focus. And this, coupled with the extreme depth of focus provided by the low voltage lamp, virtually eliminates the need to refocus the lens during the projection of a series of similarly mounted slides.

A transparent cover protects the magazine and transparencies while they are in the projector, but the cover is instantly removable to make the magazine accessible for editing.

Like the Pradovit projectors, the Pradolux has two front legs which are individually adjustable in height for centering and leveling the image on the screen.

The Pradolux, complete with 100mm $f/2.8$ projection lens, (Catalog No. 98,450) is \$97.50.

micro projection equipment for Pradovits

Accessories to adapt the Pradovit projectors to accept the Leitz Micro Projection Attachments are now available.

The large Micro Projection Attachment (Catalog No. 32,806) projects an image of microscopic specimens at three stages of magnification. These are accomplished by means of three lenses (3.5/0.10, 10/0.25 and 25/0.50) on a rotating turret.

With the 4X eyepiece supplied with the attachment, magnifications of 120X — 2420X are obtainable on the projection screen, depending on the screen size, projection distance (up to 20 ft.) and objective used.

To adapt the Pradovit to the micro-projection equipment, a simple and inexpensive bracket attaches to the front of the projector after the lens and focus-

ing sleeve of the projector have been removed.

The bracket has an extension similar to the front of the Prado 500 projector housing. This accepts not only the Micro Projection Attachments for the Prado, but also some of the other front attachments such as the bracket which accepts a manual slide changer or film strip attachment.

The special field condenser, which is made of heat-absorbing glass, is inserted in the Pradovit in place of the double mount which is normally used.

The bracket with clamping screw (Catalog No. 37,918) is \$10.00; the special field condenser is \$12.00. However, care should be taken to order the proper condenser for the Pradovit model involved. For the Pradovit FA, order Catalog No. 98,185; for the Pradovit N, use Catalog No. 37,919.

new, low Pradovit, Valoy II prices

Thanks to the world-wide demand for the versatile Pradovit automatic projectors, the Leitz factory has been able to cut unit costs by increasing Pradovit production runs.

And, of course, this saving is to be passed along to you.

The Pradovits FA 300, FA 500 and the low-voltage Pradovit N are included in the price reduction. Both the FA 300 and the N, with 90mm Colorplan f/2.5 lens (Catalog Nos. 98,401 and 98,431) are now

\$186.00; the FA 500 with the same lens (Catalog No. 98,411) is now \$198.00.

The prices of individual projection lenses and accessories, and of the Prado projectors, remain unchanged.

The Valoy II enlarger, without lens, filter or easel (Catalog No. 17,501), also benefits from a reduction in price. The new price of the Valoy is \$138.00. The price of Valoy II accessories, and of the other Leitz enlargers and their accessories, remains the same.

two new lenses for Pradovits

Two new Leitz projection lenses — a 200mm Dimar f/3.6 and a 250mm Dimar f/4 — are now available, together with matching focusing mounts, for the Pradovits FA, N and F. The addition of these focal lengths makes it convenient to use the Pradovit in large auditoriums at long projection distances without producing images too large for the room's existing screen equipment.

Price of the 200mm f/3.6 projection lens for the Pradovit is \$63.00 (Catalog No. 37,061); its required

focusing mount (Catalog No. 37,116) is \$27.00. The 250mm f/4 lens is \$72.00 without mount (Catalog No. 37,081) and the mount (Catalog No. 37,118) is \$34.50.

The double mount with field condenser and heat absorption filter which is also required for use with these lenses, is the same as that used with the 150mm lens for the Pradovits. Double Mount #98,182 should be used for the Pradovit FA; the Pradovit N and the former F require Double Mount #37,914.

Benser case insert for 280mm

To keep pace with the additions to the Leica system, a new insert for the 280mm Telyt f/4.8 lens (Insert LE 12) is available for the Benser Combination Case.

The new insert has three compartments — a large one which uses the full depth of the insert, and two smaller compartments, one above the other.

The large compartment will accommodate either the 280mm Telyt lens with attached lens hood, or

the Visoflex I with magnifier. The upper small compartment holds two filters in a special filter panel or three rolls of film. The lower compartment holds Adapter 16,466 (OUBIO) for the Visoflex II.

The dimensions of the base of Insert LE 12 (Catalog No. 98,951) are 4¹/₄" x 3¹/₁₆". Price of the insert is \$8.10; the special two-filter panel LE 12 (Catalog No. 98,952) is \$1.65.

NEW PRODUCTS

two Leicina lenses; Series V hood

The creative scope of the Leicina 8S is doubled by the availability of two new converter lenses — a wide-angle 6.25mm and a 36mm telephoto.

The 50° field of the new wide-angle lens is 35% wider than that of the 9mm converter lens and 127% wider than that of the Leicina's basic 15mm lens. The 6.25mm lens, which is a five-element f/2 Dygon, is in a fixed-focus mount. It is excellent for making movies of cramped interiors, in narrow streets or in any situation where you must include a good deal of picture area from a limited working distance.

The telephoto converter, a six-element f/2 Dygon lens in a focusing mount, has a field of view of only 9.5°. It produces an image four times the size of that produced by the 9mm lens and 2.4 times that of the 15mm lens.

The 36mm lens is excellent for scenes of distant landscapes, portraits, sports, etc.

The 6.25mm Dygon f/2 lens in fixed-focus mount (Catalog No. 21,209) is \$48.00; the 36mm Dygon f/2 in focusing mount (Catalog No. 21,007) is \$57.00.

Series V lens hood

A new lens hood is also available for the Leicina 8S which accepts standard Series V filters and fits the 9mm and 15mm lenses. This, too, adds further creative versatility to the Leicina, since it makes it possible to use a wide variety of filters, for both black-and-white and color movies, which could not previously have been used on the camera. Price of the new adapter, with lens hood for 9mm and 15mm Leicina 8S lenses (Catalog No. 22,241) is \$3.60.

focusing on...

correction. A minor change in appearance between the early sample of the Visoflex IIa described in issue No. 1, 1962 and the later production models is causing some confusion. In our sample, the position of the mirror knob when the rapid-return mirror was functioning put the red dot on top. With the mirror locked in raised position, the black dot was on top. But in the present Visoflex IIa units, the opposite is the case.

early 35mm Summarons. Early 35mm Summaron lenses without an Optical Viewing Unit were made for the M3 and were used with an accessory Optical Brilliant Viewfinder.

To the casual glance they look the same as current 35mm lenses for the M2. The older lenses, however, will *not* bring the bright-line frame of the M2 into position. If you are thinking of buying a used 35mm Summaron for your M2, be sure that it will actuate the proper bright-line frame on your camera.

an APSA for the teacher. John Brooks, Director of the Leica Technical Center in New York was honored last August by being named

an Associate of the Photographic Society of America (APSA). The honor was awarded "for the unselfish dissemination of his vast photographic knowledge to the amateur and the professional, and for his accomplishments as a teacher, writer and technician."

John also received a Silver Star award from the PSA Journal, the Society's publication, for his contributions to its pages.

blessed event. When the first baby elephant born alive in this country in more than 40 years made his debut, a Leica in the hands of David Falconer of Portland, Oregon recorded the event.

For the sake of the mother and child, zoo officials used a photo "pool" system — with Falconer as the sole photographer for three dailies and two wire vices. TV and the magazines also had one man each.

After many events, including long-distance calls to other countries for advice and the making of an electrocardiogram of the expectant mother, all concerned were rewarded by the safe arrival of the 225-lb. bundle of joy.

Falconer used 35, 50 and 135mm lenses, calling on his table-top Leica tripod for exposures which ran as high as eight seconds in certain locations.

the Pradovit's many faces

automatic projector is very versatile

With the introduction of 200mm and 250mm lenses (p. 29), the Pradovit projector offers an unequalled combination of optical versatility, beauty and automatic operation. With lenses ranging from 50mm to 250mm, it adapts to anything from panoramic, wide-screen projection in the home to lecture work in large auditoriums. And, along with this versatility, it offers remote control (up to 65 feet) of both focus and magazine travel, forward and reverse.

And its versatility doesn't stop there! You have a choice of 300W or 500W, 110V lamps in the Pradovit FA and can convert quickly from one to the other at anytime. Or, by choosing the model N, you can use the 12V, 100W lamp which combines exceptionally low operating temperatures and great depth of focus with the brilliance of most 300W line-voltage projectors. You even have a choice of magazines and remote-control cords for the Pradovit. Besides the standard 30-slide magazine, there is a 50-slide model which is useful in presenting longer slide shows. Remote control cords come in 14, 33, 48 and 65-foot lengths, permitting you to work conveniently a long way from the projector itself.

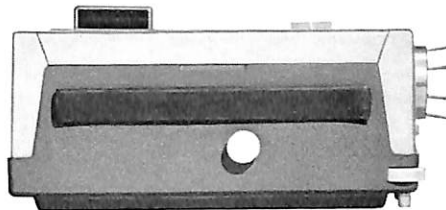
For the utmost in professional projection, the Pradovit can be controlled by an accessory Ultrasonic Remote Control Unit which has no wire connections to the projector at all! Inaudible, high-frequency sound waves control focus and slide changing, as you move freely about the room or stage, without encumbrance, at distances to 50 feet from the projector.

special purpose

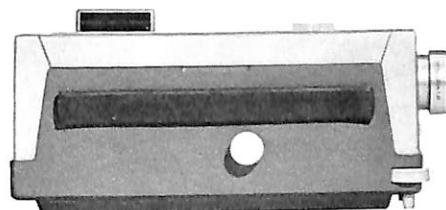
The Pradovit is convenient for special-purpose projection, too. By adding a front bracket you can use it to project microscope slides (p. 28) (including live specimens) and 35mm film strips, as well as ordinary 35mm or Superslides. Should the need arise, you can even equip the Pradovit for manual slide-changing!

With its new long-focus lenses, the Pradovit becomes a "new breed" of projector — one which looks and is at home in the most elegant living room, yet which also acts at home in the largest lecture hall.

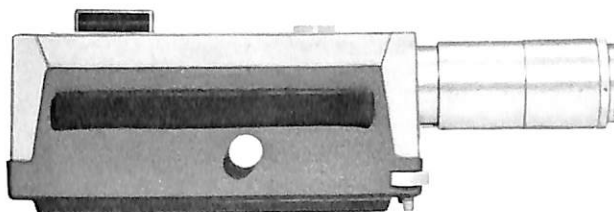
As announced elsewhere in this issue, Pradovit prices have recently been reduced. For more details about the Pradovit projector models, write the editor, requesting Leitz brochure #31-34.



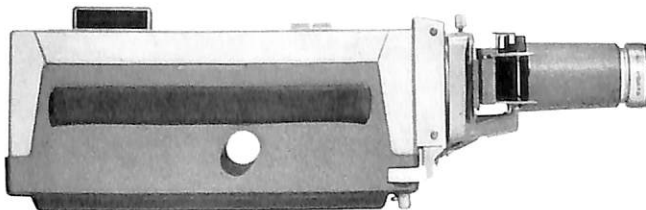
PRADOVIT with wide screen panoramic 50mm lens.



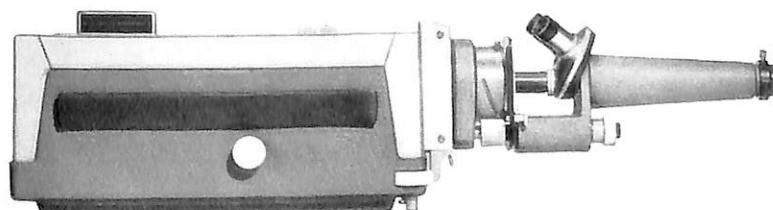
PRADOVIT with 120mm projection lens.



PRADOVIT with 250mm lens for auditorium use.



PRADOVIT with film strip changer and 120mm lens.



PRADOVIT with micro projection attachment.

all guts and no gadgets

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